



Attorney Docket No. 979-124

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

-----X
In re Application of

Examiner: B. Gillespie

Studer et al.

Group Art Unit: 1796

Serial No.: 10/528,298

Filed: January 23, 2006

For: PROCESS FOR PREPARING A MODIFIED DIISOCYANATE, PROCESS FOR
PREPARING A SELF-LUBRICATED INSULATING VARNISH, AND
PROCESS FOR PRODUCING AN ENAMELED ELECTRICAL CONDUCTOR

-----X
DECLARATION OF LAURENT SCHILDKNECHT Under 37 C.F.R. § 132

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

SIR:

In connection with the above-referenced application, please enter the following Affidavit to support the Amendment in reply to the Office Action dated July 2, 2009.

I, Laurent SCHILDKNECHT, declare as follows:

1. I am presently Product Development Manager for ESSEX in Europe but I used to work 7 years in the chemical plant of ESSEX in Europe (called IVA) as R&D Engineer and later as Development Manager. During these 7 years I have developed and improved enamels using my chemical knowledge.
2. I hold a diploma of Chemical Engineer of the European School of Chemistry, Polymers and Material (ECPM) of Strasbourg, France (equivalent to Master of Science in Polymer Chemistry).
3. Due to my experience in the area of chemical engineering and polymer processing I am familiar with various technical aspects with the preparation and application of polymers, including the use of polymers for electrical conductors.
4. I have reviewed the above-identified patent application (U.S. Patent Publication No. 2006/0122353), including the claims, and the Examiner's comments in his Office Action dated July 2, 2009.
5. Specifically, with respect to claims 11 and 20 of the application, claim 11 calls for:
 11. A process for preparing a self lubricating varnish comprising a modified polymer having a base polymer to which is attached a pendant aliphatic chain containing at least 15 carbon atoms, said process comprising the steps of:
 - preparing a modified diisocyanate to which is attached a pendant aliphatic chain containing at least 15 carbon atoms, said modified diisocyanate being obtained by reacting an isocyanate functional group of a triisocyanate with a terminal functional group of an aliphatic chain;

carrying out said preparation of the modified diisocyanate in a solvent medium with stirring and heating, so that said heating reacts said isocyanate function group with said terminal functional group; and

mixing said modified diisocyanate with at least one difunctionalized monomer containing two functional groups which are reactive with the isocyanate functional groups of the modified diisocyanate to carry out said synthesis of said modified polymer.

6. I have reviewed the Examiner's grounds for rejection in paragraphs 4 and 5 of the Office Action as well as the response to the prior Amendment in paragraph 20 of the Office Action. Moreover, I have reviewed the cited reference Robertson in view of this rejection. Col. 12, lines 25-30 of the Robertson reference states that if it is desired to incorporate the slip agent into the "A" compound, the slip agent will prereact with the polyisocyanate if it is a fatty alcohol or fatty amine. Then the Robertson reference continues by stating that "care should be taken to insure that the "A" component is well mixed by using propeller or paddle type stirrer.

7. I have also analyzed how this Robertson reference is being applied against the element of claim 11, namely, "carrying out said preparation of the modified diisocyanate in a solvent medium with stirring and heating, so that said heating reacts said isocyanate function group with said terminal functional group"

It appears that the Examiner is suggesting that when the Robertson reference talks about prereaction, it implies that the aliphatic chain is reacting with the triisocyanate first, and then the resultant combination is mixed with the polymer. The Examiner believes that the term "prereact" in Robertson can teach or suggest a complete reaction and adding heat to ensure a well mixed compound is obvious.

8. This analysis and application of Robertson to claim 11 of the present application is in error. In my opinion, "reaction," as claimed, means that the elements are reacting. The cited stirring step as recited in Robertson does not cause a reaction between the isocyanate group with the terminal function group. The man skilled in the art, starting from Robertson, would not have been prompted to heat to a sufficient temperature to cause the reaction between the isocyanate group with the terminal function group.

For example, a temperature of 30°C (as taught in Robertson (col. 13, lines 24-27) is not sufficient to get a complete reaction. So that when Robertson talks about "pre-reaction," this reaction can not give a product with the same properties as those provided by the present claimed arrangement.

Moreover, the present claim calls for a pendant aliphatic chain containing at least 15 carbon atoms. This amount of carbon atoms defines a relatively long aliphatic chain. Relatively long aliphatic chains, such as those cited in the pending claims, have very low reactivity, especially at low temperature. As such, the process described by Robertson can not be compared with the process claimed by the present invention. And simple stirring step or claim of "pre reaction" could not be able to provide a sufficient heating as such to get said complete reaction between the isocyanate function group and the terminal functional group.

9. I declare that all statements made above of my own knowledge are true and all statements made on information and belief are believed to be true; and these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: November, 25 2009



Laurent SCHILDKNECHT